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UNITED STATES PATENT AND TRADEMARK OFFICE

Application of: Chen *et al.*

Confirmation No.: 4030

Serial No.: 10/705,173

Art Unit: 1614

Filed: November 6, 2003

Examiner: To be Assigned

For: FUSED HETEROCYCLIC  
COMPOUNDS

Attorney Docket No.: 11134-013-999

**INFORMATION DISCLOSURE STATEMENT**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

In accordance with the duty of disclosure provisions of 37 C.F.R. §1.56, there is hereby provided certain information which the Examiner may consider material to the examination of the subject U.S. patent application. It is requested that the Examiner make this information of record if it is deemed material to the examination of the application.

1. Enclosures accompanying this Information Disclosure Statement are:
  - 1a.  A list of all patents, publications, applications, or other information submitted for consideration by the office.
  - 1b. A legible copy of:
    - Each U.S. patent application publication and U.S. and foreign patent;
    - Each publication or that portion which caused it to be listed on the PTO-1449;
    - For each cited pending U.S. application, the application specification including the claims, and any drawing of the application, or portion of the application which caused it to be listed on the PTO-1449 including any claims directed to that portion;
    - all other information or portion which caused it to be listed on the PTO-1449.
  - 1c.  An English language copy of search report(s) from a counterpart foreign application or PCT International Search Report.
  - 1d.  Explanations of relevancy (ATTACHMENT 1(d), hereto) or English language abstracts of the non-English language publications.
2.  This Information Disclosure Statement is filed under 37 C.F.R. §1.97(b):
  - Within three months of the filing date of a national application other than a continued prosecution application under §1.53(d);
  - Within three months of the date of entry of the national stage as set forth in §1.491 in an international application;

- Before the mailing of the first Office action on the merits;
- Before the mailing of a first Office action after the filing of a request for continued examination under §1.114.

3.  This Information Disclosure Statement is filed under 37 C.F.R. §1.97(c) after the period specified in 37 C.F.R §1.97(b), but before the mailing date of any of a final action under 37 C.F.R. §1.113, a notice of allowance under 37 C.F.R. §1.311 or an action that otherwise closes prosecution in the application.

*(Check either Item 3a or 3b)*

3a.  The Certification Statement in Item 5 below is applicable. Accordingly, no fee is required.

3b.  The \$180.00 fee set forth in 37 C.F.R. §1.17(p) in accordance with 37 C.F.R. §1.97(c) is:  
 enclosed  
 to be charged to Pennie & Edmonds LLP Deposit Account No. 16-1150.

*(Item 3b to be checked if any reference known for more than 3 months)*

4.  This Information Disclosure Statement is filed under 37 C.F.R. §1.97(d) after the period specified in 37 C.F.R. §1.97(c), but on or before the date of payment of the issue fee.

The \$180.00 fee set forth in 37 C.F.R. §1.17(p) is:  
 enclosed.  
 to be charged to Jones Day Deposit Account No. 503013.

The Certification Statement in Item 5 below is applicable.

5.  Certification Statement (applicable if Item 3a or Item 4 is checked)

*(Check either Item 5a or 5b)*

5a.  In accordance with 37 C.F.R. §1.97(e)(1), it is certified that each item of information contained in this Information Disclosure Statement was first cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement.

5b.  In accordance with 37 C.F.R. §1.97(e)(2), it is certified that no item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to the knowledge of the undersigned after making reasonable inquiry, was known by any individual designated in 37 C.F.R. §1.56(c) more than three months prior to the filing of this Information Disclosure Statement.

6.  This application is a continuation application under 37 C.F.R. §1.60 or §1.53(b) or (d).

*(Check appropriate Items 6a, 6b and/or 6c)*

6a.  A Petition to Withdraw from issue under 37 C.F.R. §1.313(b)(5) is concurrently filed herewith.

6b.  Copies of publications listed on Form PTO-1449 from prior application Serial No., filed on , of which this application claims priority under 35 U.S.C. §120, are being submitted for the U.S. Patent Office's convenience.

6c.  Copies of the publications listed on Form PTO-1449 were not previously cited in prior application Serial No. , filed on , and are provided herewith.

7.  This is a Supplemental Information Disclosure Statement. (Check Item 7a)

7a.  This Supplemental Information Disclosure Statement under 37 C.F.R. §1.97(f) supplements the Information Disclosure Statement filed on . A bona fide attempt was made to comply with 37 C.F.R. §1.98, but inadvertent omissions were made. These omissions have been corrected herein. Accordingly, additional time is requested so that this Supplemental Information Disclosure Statement can be considered as if properly filed on

8.  In accordance with 37 C.F.R. §1.98, a concise explanation of what is presently understood to be the relevance of each non-English language publication is:  
*(Check Item 8a, 8b, or 8c)*

8a.  satisfied because all non-English language publications were cited on the enclosed English language copy of the PCT International Search Report or the search report from a counterpart foreign application indicating the degree of relevance found by the foreign office.

8b.  set forth in the application.

8c.  enclosed as an attachment hereto.

9.  The Commissioner is authorized to charge any additional fee required or credit any overpayment for this Information Disclosure Statement and/or Petition to Jones Day Deposit Account No. 503013.

10.  No admission is made that the information cited in this Statement is, or is considered to be, material to patentability nor a representation that a search has been made (other than a search report of a foreign counterpart application or PCT International Search Report if submitted herewith). 37 C.F.R. §§1.97(g) and (h).

Respectfully submitted,



54,398

Date: June 14, 2004

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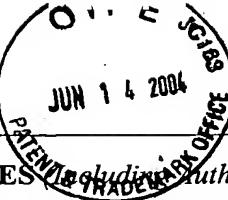
<b>LIST OF REFERENCES CITED BY APPLICANT</b> <small>(Use several sheets if necessary)</small>	ATTY DOCKET NO.	APPLICATION NO
	11134-013-999	10/705,173
	APPLICANT	
	Chen <i>et al.</i>	
FILING DATE	GROUP	
November 6, 2003	1614	

### U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	B01	5,441,956	8/15/95	Vecchietti <i>et al.</i>			
	B02	5,457,208	10/10/95	Portoghese <i>et al.</i>			
	B03	20030023085	1/30/03	Chen <i>et al.</i>			
	B04	20030176694	9/18/03	Chen <i>et al.</i>			
	B05	20030199549	10/23/03	Burnett <i>et al.</i>			

### FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	YES	NO
	B06	WO91/07966	6/13/91	PCT					
	B07	WO94/07896	4/14/94	PCT					
	B08	WO95/13071	5/18/95	PCT					
	B09	WO96/23793	8/08/96	PCT					
	B10	WO98/31684	7/23/98	PCT					
	B11	WO00/21577	4/20/00	PCT					
	B12	WO00/49046	8/24/00	PCT					
	B13	WO01/21169	3/29/01	PCT					
	B14	WO01/87834	11/22/01	PCT					
	B15	WO02/002744	1/10/02	PCT					
	B16	WO02/03070	1/10/02	PCT					
	B17	WO02/04433	1/17/02	PCT					
	B18	WO02/06245	1/24/02	PCT					
	B19	WO02/032897	4/25/02	PCT					
	B20	WO02/051809	7/04/02	PCT					
	B21	WO02/057233	7/25/02	PCT					
	B22	WO02/076929	10/03/02	PCT					
	B23	WO02/076947	10/03/02	PCT					
	B24	WO02/083134	10/24/02	PCT					
	B25	WO02089729	11/14/02	PCT					
	B26	WO02/094799	11/28/02	PCT					
	B27	WO03/060475	07/24/03	PCT					
	B28	JP 4-368384	12/21/92	JP					
	B29	JP 2001226269	8/21/01	JP					
	B30	International Search Report PCT/US03/35543	04/15/04	PCT					



## OTHER REFERENCES (Author, Title, Date, Pertinent Pages, Etc.)

	B31	Aceto, MD et al., "Dependence studies of new compounds in the Rhesus monkey, rat and mouse", (1997) Department of Pharmacology and Toxicology, Medical College of Virginia Commonwealth University, pp 363-407.
	B32	Bergman et al., 1980 "ACTA Chemica Scandinavica, Series B; Organic Chemistry and Biochemistry B34(10):763-66.
	B33	Blechert, S. et al., "Domino reactions - New concepts in the synthesis of indole alkaloids and other polycyclic indole derivatives", (1995) Institut Für Organische Chemie, Sekr. C3, Technische Universität Berlin, Straße des 17 Juni 135, D-10623 Berlin, Germany pp 592-604.
	B34	Boutin et al., (2002) "Melanin-Concentrating Hormone and its Receptors: State of the Art," Can, J. of Physio. and Pharmacol. 80: 388-395.
	B35	Chambers et al., "Melanin-concentrating hormone is the cognate ligand for the orphan G-protein-coupled receptor SLC-1" <i>Nature</i> , (1999) 400:261-65
	B36	Fujii, H. et al., "A novel abnormal rearrangement in the fishcer indole synthesis", (1997) <i>Heterocycles</i> 45:2109-2112.
	B37	Gouyette, A. et al., "Synthesis, DNA intercalation and antitumor activity of 9-hdroxy-11-demethylellipticine and some derivatives. Comparison with the corresponding ellipticines", (1980) <i>Euro. J. Med. Chem.</i> 15:503-510.
	B38	Guillonneau, C. et al., "Synthesis of 9-O-substituted derivatives of 9-hydroxy-5,6-dimethyl-6H-pyrido[4,3-b]carbazole-1-carboxylic acid (2-(dimethylamino)ethyl)amide and their 10-and 11-methyl analogues with improved antitumor activity", (1990) <i>J. Med. Chem.</i> 42:2191-2203.
	B39	Ishikura et al., "A Novel Entry to Pyrido [4,3-b] Carbazole: An Efficient Synthesis of Ellipticine", Chemical Abstract, Vol. 132, Abstract 237230, 2000
	B40	Jones, RM et al., "5'-Guanidinonaltrindole, a highly selective and potent k-opioid receptor antagonist" (2000) <i>Euro. J. Med. Chem.</i> 39:49-52.
	B41	Langlois et al., (975) <i>Tetrahedron Letters</i> 11: 955-958.
	B42	Lipkowski, AW et al., "Benzomorphan alkaloids: natural peptidomimetics of opioid peptide pharmacophores", (1995) <i>Letters in Peptide Science</i> , 2:177-181.
	B43	Olmsted, SL et al., "A remarkable change of opioid receptor selectivity on the attachment of a peptidomimetic $\kappa$ address element to the $\delta$ antagonist, naltrindole: 5'-( $N^2$ -alkylamidino)methyl]naltrindole derivatives as a novel class of $\kappa$ opioid receptor antagonists" (1993) <i>J. Med. Chem.</i> 36:179-180.
	B44	Portoghesi, PS et al., "Naltrindole 5'-isothiocyanate: a nonequilibrium, highly selective $\delta$ opioid receptor antagonist" (1990) <i>J. Med. Chem.</i> 33:1547-1548.
	B45	Portoghesi, PS et al., "Design of peptidomimetic $\delta$ opioid receptor antagonists using the message-address concept" (1990) <i>J. Med. Chem.</i> 33:1714-1720.
	B46	Portoghesi, PS et al., "Application of the message-address concept in the design of highly potent and selective non-peptide $\delta$ opioid receptor antagonists", (1988) <i>J. Med. Chem.</i> 31:281-282.
	B47	Portoghesi, PS et al., "7'-substituted amino acid conjugates of naltrindole. Hydrophilic groups as determinants of selective antagonism of $\delta_1$ opioid receptor-mediated antinociception in mice." (1995) <i>J. Med. Chem.</i> 38:402-407.
	B48	Rastogi, et al. 1987 "Synthesis, Neuroleptic & Antiinflammatory Activities of 4a, 11a-cis-&trans-2-[ $\gamma$ -(p-Fluorobenzoyl)proppyl]-1,2,3,4,4a,5,11,11 a-octahydro-6H-pyrido[4,3-b]carbazoles & Related Derivatives," <i>India Journal of Chemistry</i> 26B: 335-340.
	B49	Série G "Chimie Organique. - Une nouvelle synthèse du système 6 H-pyrido-(4.3b) carbaxolique", (1972) <i>C.R. Acad. Sc. Paris</i> , t. 274:1948-1949.
	B50	Stevens, WC et al., "Potent and selective indolomorphinan antagonists of the kappa-opioid receptor", (2000) <i>J. Med. Chem.</i> 43:2759-2769.

EXAMINER

DATE CONSIDERED

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.